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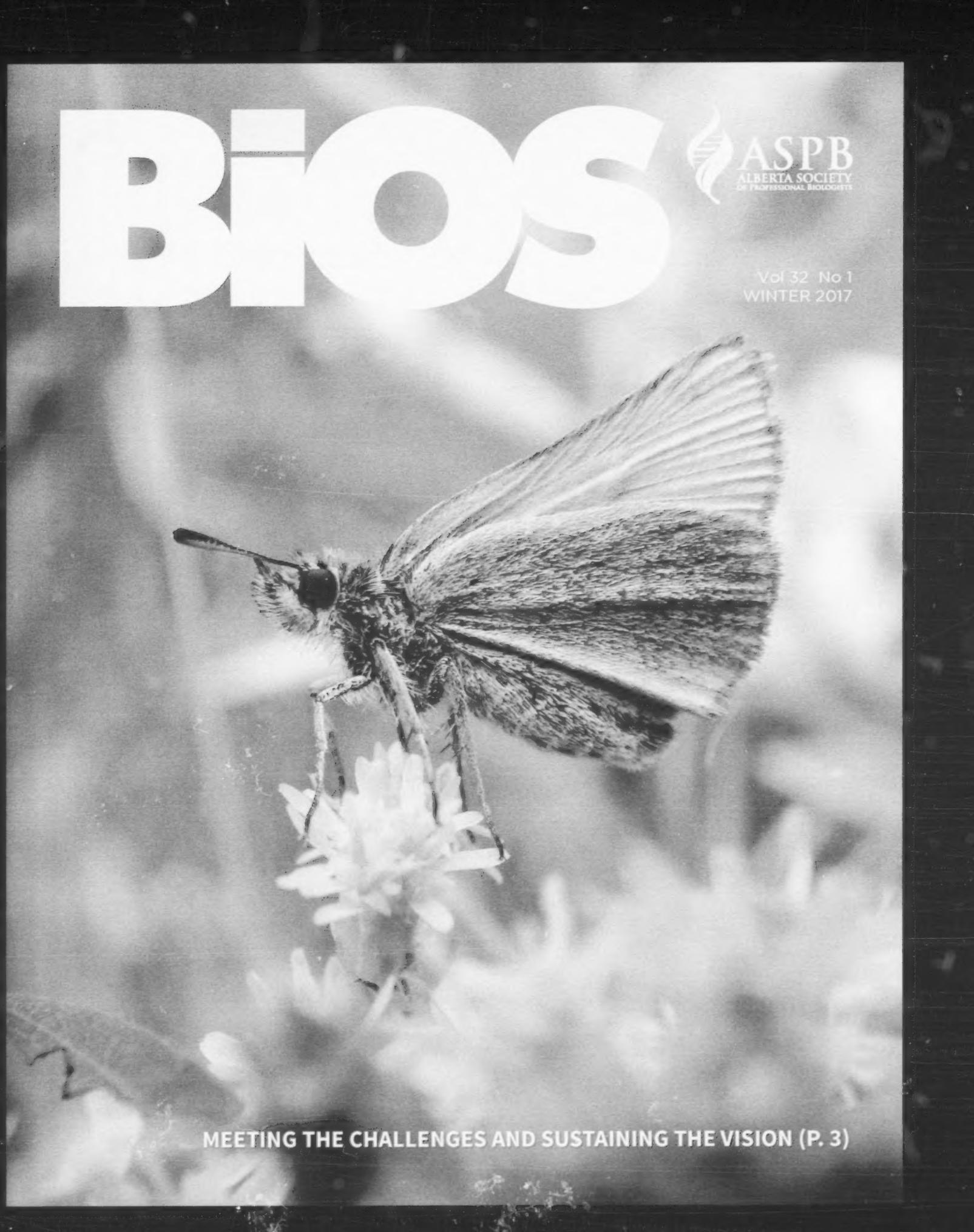

MEETING THE CHALLENGES AND SUSTAINING THE VISION (P. 3)

ASPB
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BIOS

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Editor:
Peter G. Kingsmill

Articles or comments are welcomed and should be sent to announcements@aspb.ab.ca

... notes from the E.D.

As many of you know, after four years with the ASPB Jen Sipkens is no longer with the organization. The ASPB thanks her for all her enthusiasm and contributions and wishes her all the best for her future endeavours.

It is my pleasure to be serving the ASPB - again, but now in the capacity of interim Executive Director. Allow me to update you on the things that have been going on here this past autumn.

The ASPB has continued to promote the joys of studying and practicing biology at career fairs at the University of Alberta, University of Calgary and Lakeland College.

In early December, board member Amy Krawczyk attended an Alberta North American Waterfowl Management Plan (NAWMP) meeting in Red Deer to explore non-regulatory tools such as wetland education and outreach to increase knowledge around the benefits provided by wetlands and to engage stakeholders in wetland stewardship practices. With this project still in the very early stages, NAWMP is trying to put together a portal for a collaborative wetland education and outreach program for the general public and wetland practitioners, as well as authenticating professionals (under the new wetland practice standards) to access consistent, Alberta Environment and Parks approved and Pro 10 supported, training material for wetlands work. We'll keep you posted as it develops.

Work continues on a joint wildlife and reclamation one-day workshop to be held in early Q2, 2017. Also, a member favourite, the fish ID workshops, will return in February 2017.

The ASPB was nominated by the University of Alberta for an Award in the Education category at the Association of Fundraising Professionals (Edmonton Chapter) National Philanthropy Day Awards Luncheon held in Edmonton on November 10, 2016. The Award recognized the Society's contribution to the scholarship set up in early 2016 to recognize the Late Dr. Robin Leech and his passion for education in the field of biology. The team responsible for setting up the scholarship included Amal Mikdame, Kristie Wanchuk and Vice Dean (Science) John Beamish at the University, along with ASPB primary contact Liz Hasham. ASPB President-Elect Lawrence Levinson received the Award on behalf of the Society.

While many of us continue to be impacted by the downturn in the economy, remember that we are all in this together – talking to people can be one way to manage stress. Take advantage of networking with peers informally or formally by volunteering on an ASPB committee or on the Board.

I look forward to serving the Society in my new (interim) capacity; feel free to call on me anytime!

Susan Patey LeDrew, Interim Executive Director

On the cover...

Our cover photo this month is of a European skipper, *Thymelicus lineola*, and was taken by Bette Beswick, P. Biol., at Beauvais Lake Provincial Park on August 12, 2014. The species showed up in Ontario in 1910, and started to quickly expand its population and range through the 1950s and 1960s.

The ASPB in 2017:
Meeting the challenges and sustaining the vision

Elvie Reinson

2016 has seen many positive changes within the ASPB. Change can be difficult and often there are a few "speed bumps" encountered along the way, but it is necessary to move forward through those in order to ensure that our Society has an even brighter future.

The ASPB's Vision and Mission are clear: "The ASPB demonstrates excellence in professional regulation. Members are trusted and recognized by the Public of Alberta" and "The ASPB is the provincial regulator responsible for protecting the Public by setting standards for qualifications, conduct, and continuing competency for the practice of biology." Our goals are, in fact, similar to those of other professional regulatory organizations in Alberta, such as APEGA (the Association of Professional Engineers and Geoscientists of Alberta) which regulates the practices of engineering and geoscience in the province.

In short, we want the ASPB to be recognised and respected and synonymous with "anything biology" in Alberta, with public protection as the underlying theme behind the decisions made in the governance of our Society. Many biology jobs we have today did not exist ten years ago. Looking forward, we do not yet know what biology jobs may exist in another ten years, while there is a distinct possibility that many biology jobs that exist today might not exist in another five years. For example: field work is being replaced with technological advances via drones or satellites taking detailed photographs and using software to complete the inventory.

The ASPB is making changes to be able to adapt quickly to these changing roles and responsibilities. A major focus is our registrations process, and we are committed to improving the process and to making it consistently transparent and replicable. Obviously, this ongoing task has its challenges as we constantly review the process and make adjustments.

Also reflecting many of these changing realities, your Society is still focused on changing the legislation under which we operate as a professional society. This can be a lengthy and time consuming process and is entirely dependent on the provincial government. We will, of course, keep membership updated on this front but suffice it to say at this point we are not even "on the docket" for consideration. There had been earlier discussion around whether the ASPB should continue to be a standalone organization or whether it would be advantageous to merge with other professional regulatory bodies to form one "super" science professional regulatory organization. However, for the moment all discussions have stalled.

On another - but related - topic, I want to emphasize that serving on the ASPB Board of Directors is a great experience for people who want to grow personally and professionally, and we do need your input. I encourage all our professional biologists to talk to Board members past and present, ask questions and consider if being on the Board could be a fit for you. The nomination process is not a difficult one, but do remember that nominations close on January 20, 2017. More information is available on the website at https://aspb.s3.amazonaws.com/assets/2163/Call%20for%20Board%20Nominations.pdf.

As always, please contact myself or our interim executive director Susan Patey LeDrew with any comments, concerns or questions. Have a happy and prosperous 2017!

BC-CAB welcomes new Lay Councillor

On December 12, 2016, the College of Applied Biology of British Columbia announced the appointment of James Bayles, MBA, to the organization as Lay Council Member. Lay Councillors are appointed by the government by a Ministerial Order to ensure that the College upholds its mandate to protect the public interest. Lay members sit as voting members of Council and are part of the checks and balances considered by government when it extends the privilege of self-governance to a profession.

James Bayles retired in 2016 after a career spanning 40 years in the paper industry. His most recent position was Senior Vice -President, Sales and Marketing with Richmond based Catalyst Paper, where he was part of a 5 member senior executive team. He holds a Bachelor of Science degree from the University of Waterloo and an MBA in Management from Golden Gate University in San Francisco.

The College of Applied Biology is the regulator of professional biologists, technologists, and technicians in B.C. Through rigorous admission standards and accountability mechanisms (Code of Ethics, audit, and discipline processes) the College assures the public that our members are qualified and accountable.

The B.C. requirement for lay members on boards of professional societies is similar in most regards to that in Alberta, where they are generally referred to as Public Members. David McInnes, ICD.D, has served as Public Member on the board of directors of the Alberta Society of Professional Biologists for a number of years.

IN MEMORIUM

Robin Leech, Alberta's Spiderman 1937 - 2016

by Peter G. Kingsmill, ASPB Editor

Dr Robin Leech was born into an entomological family: his father (Hugh Bosdin Leech, MSc.) was a water beetle specialist and his mother (Frances Orchid Quail) held a B.A. in economics and English; they were married in Fernie, BC in 1936. Robin was born on February 1, 1937 in Berkeley, California where his father was completing his Masters degree; Robin's memories of his early childhood were filled with identifying – and learning the names of – beetles. "I learned to say the family names of many beetles, and to recognize them before I could speak sentences. When we went outside to the garden, and one of us found a beetle, Dad would repeat the name "Ca-ra-bid", "Te-nee-bree-onid", or whatever!"

In 1955, Robin entered first year at the University of British Columbia in Vancouver. He soon realized the importance of mentorship, counting among them not only his father but soon adding Dr Ian McTaggart-Cowan (head of the Zoology Department) and Professor Emeritus George J. Spencer. In his first summer employment after his freshman year, he flew north to Norman Wells on the Mackenzie River and collected "anything small that moved" for the Canadian Northern Insect Survey (based from Ottawa). One of his team's tasks was to field-test the effectiveness, comfort, problems, etc., of mosquito and black fly repellents!

In 1957, Dr Edward S. Ross of the California Academy of Sciences contacted Robin, asking if he wanted to go on a 14-month expedition to Africa. The National Geographic Magazine funded the adventure; "over the table it was for research, but under the table it said to take some good pictures."

Through Dr Ross, Robin met many well-known entomologists, biologists and anthropologists, among them Narcisse Leleup and Pierre Basilewski of the Belgian IRSAC (Institute de la Reserche Scientifique en Afrique Centrale); the Leakey family (Louis, Mary, Richard and Philip) at the Coryndon Museum (now the Kenya National Museum) in Nairobi); American James P. Chapin, ornithologist at Lwiro near Lake Kivu, and his wife Ruth; John D. Omer-Cooper, a South African water beetle specialist; J.Lovett B. Smith who described *Latimeria chalumnae*, the first living coelacanth; and R.F. Lawrence, spider and solpugid specialist at the Natal Museum, Pietermaritzburg.

1957 – Robin shares his observations with a couple of young friends in the Ituri Forest, near Walikale, Congo. Photo supplied by RL.

In 1959, Robin was invited to join a two-year project studying the aerial distribution of arthropods in the Antarctic section of the Pacific Basin. The triggers for this research project were the findings that, despite the strictest of plant quarantine methods for ships and planes, pest insects were still entering Hawaii and becoming crop pests. In 1960, during the Antarctic winter, he travelled to Vietnam and Laos to study bubonic plague vectors, collecting rats and other rodents for their fleas and mites, to study the sylvatic forms of bubonic plague.

In 1963, after Robin graduated from UBC, he registered for graduate studies at the University of Alberta and was living in Edmonton. He met and married Alice Payne, who was taking her MSc in Geology. (Their daughter Katherine was born in 1967 and their son Stuart was born in August 1969.) Robin's MSc thesis was on the spiders of Hazen Camp (Ellesmere Island).

Robin's office and lab at the University of Alberta were in the basement of the Agriculture Building, along with a number of graduate students in geology. In early December 1970, he defended his PhD thesis, *A revision of the Nearctic Amaurobiidae*. Dr John A.L. Cooke, formerly of Oxford University, and at that time of the American Museum of Natural History in New York City, was the external examiner. Later that month, Robin and his little family headed east to Ottawa to begin his post-doctorate fellowship at the National Research Council of Canada (NRC).

Following his "post-doc" at the NRC, Robin worked in the Policy Division of Parks Canada in Ottawa between 1972 and 1974, where he was responsible for bison in Wood Buffalo National Park and the control of Anthrax, Brucellosis and Tuberculosis. From 1974 to 1978, he worked in the Research Secretariat of Alberta Environment, where one of his roles was evaluating research proposals submitted to the Alberta Environment Research Trust. During his time there, he worked with Stu Smith, Don Thompson and Don Dabbs to set up what would become the Alberta Society of Professional Biologists. Robin Leech, Member #14, was the Society's first Secretary.

In spring of 1978 Robin went to work for Albert Karvonen of Karvonen Films in Edmonton, working on natural history slide kits for Alberta schools, and videos on the flora and fauna of Alberta.

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IN MEMORIUM... *(cont'd from page 4)*

In the same year, he was asked to be an Associate Editor of *The Canadian Entomologist*, a position he held until 2012 when he seriously injured his back in a fall, leaving him unable to continue.

In the early 1980s, employment opportunities in his chosen field became scarce. With a household to support, Robin took the tests to become a taxi driver for Co-op Taxi of Edmonton, where he spent over three years. He wrote of this period: "This job... did not leave much time or energy for doing other things, (although) during those three and a half years until September 1984, I was able to do editing and evaluations of reports for the provincial and federal governments."

That decade was also tough on marriages. Robin and his first wife Alice divorced in 1979 and in 1980 he married Maja Laird. This second marriage lasted till 1987, following which he married a former sweetheart from UBC, Bonnie MacDonald. After a number of years, the couple went their separate ways, as Robin wished to continue teaching in Edmonton and Bonnie chose to remain in Australia.

During the same period, Robin also served as a private consultant, largely for the Alberta and Federal governments, assessing waste disposal areas of all federal government lands in Alberta (e.g., First Nations Reserves, military bases, national parks, airports, agriculture research stations, etc.) for leakage into ground waters. In September 1984, he started contract teaching in the Biological Sciences Program at the Northern Alberta Institute of Technology, and in 1988 he was taken on full-time, teaching such courses as comparative vertebrate anatomy, meteorology, ecology, invertebrate zoology, entomology, botany, hard core English grammar and report writing.

At age 65, Robin retired from NAIT in May, 2002, and in that same month

2010 – Robin collecting spiders in the Wagner Natural Area near Spruce Grove, Alberta. Photo Credit: Lorie Taylor

became the Executive Director of the Alberta Society of Professional Biologists. He held this position until September, 2009, helping to connect British Columbia biologists with their Alberta counterparts through the Trade, Investment and Labor Management Agreement, which enabled professionals to move their practice from one province to the other without having to recertify. (Of note, Robin was particularly proud of starting the process that would eventually bring biology technologists alongside the professional biologists under one Society - the ASPB.)

In June, 2005, he met Lorie Jean Taylor (BGS, B.Ed.) while helping to organize his (California) 50th high school reunion. For the next 5 years, the couple travelled extensively, working together with spiders, of course (for example, the Wagner Natural Area research of 2010) and photography. On June 15, 2010, they were married in the Korean Pavilion at the Royal Alberta Museum grounds. Robin wrote: "...we do almost everything together, from gardening, creating a book of puns with illustrations to checking out the birds in the back yard with high-powered binoculars. Our 'together work' culminated in the publishing of a book on puns titled *Once Upun a Time* which was published in 2015. We do work well together. Lorie created all the illustrations and I compiled and created the puns."

Professionally, in 2010 Robin contracted with Agriculture Canada in Lethbridge to identify spiders collected in crop fields where there were pests. There were many spiders collected, and this work morphed into a study of the spiders of the Canadian Prairies, which was published in January, 2014 in the *Biological Survey of Canada*, covering 767 species and a possible 44 more.

In 2013, he was accorded a Life Membership in his beloved Alberta Society of Professional Biologists.

Robin Leech, PhD, P. Biol., died peacefully in an Edmonton hospital in the early morning hours of June 17, 2016. Following his passing, Jonathan Schaeffer, Dean of the Faculty of Science at the University of Alberta, wrote: "Robin and passion are synonymous. His enthusiasm for biology – especially spiders – was infectious, and many at the University benefited from his inquisitiveness."

To honour his memory and to continue his passion for engaging students in science, the Alberta Society of Professional Biologists has established an endowment at his alma mater in Dr Leech's name. "Robin was far more than a highly respected arachnologist," wrote Jennifer Sipkens, ASPB Executive Director at the time. "He was passionate about the ASPB and unstoppable when seeking out opportunities to support young biologists, especially students."

The author of this article has chosen to refer to Dr Leech throughout as "Robin", a reflection of his innate dignity and his fierce desire to remain accessible as a colleague, a teacher, and above all as a mentor to all with whom he crossed paths. Robin's legacy will continue, not only through his arachnid library (the largest private library of spider literature in Canada and possibly North America), and its attendant collection of roughly 75,000 spiders, but through his passion for sharing his knowledge and wisdom.

The author is grateful to the chronology and detail provided by the subject in an unpublished autobiography, made available through his friends.

Parks & Protected Areas: a gap analysis

The sixth issue (December 2016) of the Alberta Biodiversity Monitoring Institute's (ABMI) *Science Letters* is titled *Gap analysis of parks and protected areas in the boreal region of Alberta* and written by Ermias T. Azeria and Jim Schieck of the ABMI. The following article is a précis of the *Science Letter*, prepared for *BIOS* by its editor, and does not include the charts, maps and level of detail which are part of the original document.

It is worth noting a paragraph appended to this Science Letter with the following acknowledgement: *The production of this report was initially supported by the Alberta Environmental Monitoring, Evaluation, and Reporting Agency (AEMERA). In April 2016, AEMERA was dissolved and its monitoring and science functions transferred to Alberta's Ministry of Environment and Parks.*

INTRODUCTION

The creation of a parks and protected area (PPA) network is a key tool in conserving local and regional biodiversity; to sustain species' populations, it is critical to protect their natural habitats. Ideally, PPAs are selected using a systematic conservation planning process based on comprehensive species distribution data. This ensures that the final PPA network accommodates the ecological requirements of all native biota. However, due to limited knowledge of individual species' abundance and habitat requirements, most planning resorts to coarse-filter approaches that focus on selecting natural ecosystems or landscape types as proxies that roughly represent the biological diversity of a particular region.

In Alberta, as part of the province's vision of sustainable resource development, a PPA network has been established to ensure the longevity of the province's rich natural heritage. These PPAs were selected based on a "coarse filter" habitat approach that included the diversity of natural landscape types, such as bedrock, colluvial deposits, eolian deposits, moraine, organic wetland, and mineral wetlands within Alberta's Natural Regions and Subregions.

In addition, various "fine filters" - for example, unique geologic features, localized species/communities, and species with legislated protection requirements - were used to fill potential gaps in the "coarse filter" approach. One key way to evaluate the success of a PPA network is to assess the extent to which it captures the range of vegetation types and biodiversity found in a region. How well do existing Alberta PPAs represent regional vegetation types and biota? Information collected by the Alberta Biodiversity Monitoring Institute (ABMI) provides a unique opportunity to address this question.

RESULTS AND DISCUSSION

Representation of vegetation features and biodiversity in the current PPA network

The existing PPA network covers 17.3% of the Boreal region, which meets the 17% target set in the Canadian Biodiversity 2020 Target. The PPAs are largely covered by vegetation with the remaining area comprising water, bare ground, and human footprint.

Many of the vegetation types had at least 15% of their area contained in the current PPA network, e.g., upland spruce and pine). However, mixedwood forest was under-represented; this forest type has been disproportionately affected by forest harvesting and agriculture. Other vegetation types with relatively low representation in the current PPA network included deciduous forest, black spruce forest, and grassland.

Species representation in the PPA network ranged from 1% to 62% of the respective regional abundances expected under reference conditions. 34.2% of vascular plant and 38.4% of bird species had under 10% of their populations in existing PPAs. A lower proportion of lichen and moss species (13.8%) had under 10% of their populations in existing PPAs.

How much area is required to fill gaps in vegetation features?

Based on systematic selection, an additional 16,002² km (i.e. 4.1 % of the region) had to be added to the PPA network to ensure that at least 10% of every vegetation type was included. Most of the selected gap-filling areas were located within the Central Mixedwood, Dry Mixedwood and Lower Boreal Highland subregions, which contain abundant mixedwood forests.

Representation of species in PPAs and gap-filling areas: Can vegetation features act as a rough proxy for species?

As expected, gap-filling to ensure a 10% representation of each vegetation type increased the number of species with at least 10% of their populations represented in the enhanced network. However, gap-filling based on vegetation was less effective at increasing representation of bird and vascular plant species than for moss and lichen species; nearly 13.7% of birds and vascular plants failed to reach 10% population representation. The proportion not reaching 10% was relatively small for mosses and lichens: 4.3% and 3.2%, respectively.

Representation of species that fall through the coarse filter approaches

To achieve 10% representation of all species, an additional 5462 sq. km (1.4 % of the region) had to be added to the "enhanced" network with gap-filling areas for vegetation types, bringing the total additional area required to ensure the proportional representation of vegetation types and species to 5.5% of the region. A significant part of the additional area was located in the southern part of the Boreal region, where many of the under-represented bird and vascular plant species are most abundant. Moreover, with the additional areas, the

(continued on page 7)

Biennial Salary Survey – 2016 Results

The following tables provide the results of the annual salary survey submitted by ASPB members. Only individuals who indicated they were working as biologists and work full-time (35+ hours per week and 12 months per year) were included in the analysis. When interpreting these results please keep in mind the significant limitations. Owing to the non-random sample design the results represent the mean salaries of the individuals that responded to the survey, and should not be construed as a mean of ASPB members or biologist's salaries in general. In addition, because the information is self-reported it is not possible to confirm information. For instance one individual reported a salary of $825,000/year. Based on all other salaries reported it appears highly likely that this salary is an error and instead should have been $82,500/year. However, the information has been left in the analysis.

All tables provide mean, standard deviation and sample size to allow for further between-group analysis should a reader wish to do so. Overall, 254 fulltime biologists submitted their information. Table 1 shows the mean salary of $97.5 k per year, however, the standard deviation and range are very large.

TABLE 1: ALL SURVEY PARTICIPANTS COMBINED

mean salary	$97,427.98
sd	$63,158.89
n	254
range	$11.4k -$825k

When split between sectors, "Oil & Gas" and "Non-Oil & Gas Industry" show the highest mean salaries, with "NGO" and "Education/Academia" having the lowest (Table 2). It should be noted that many of the sectors have very low sample size.

When analyzed based on years of experience the data show a predictable trend, with higher mean salaries associated with greater experience level (Table 3). A similar predictable trend is seen in Table 4, where increased education results in a higher mean salary. However, there is a large degree of overlap in the salary ranges. The B.Sc. category in particular has a reported salary range from $11,400 to $825,000 which overlaps all other categories.

TABLE 2: SALARY BY SECTOR

mean	Consulting	Provincial Gov	Federal Gov	Municipal Gov	Oil &Gas	Non-oil & gas industry	Education Academia	NGO
salary	$97,935.70	$91,414.19	$81,599.50	$85,792.86	$116,092.74	$108,168.08	$45,875.00	$55,000.00
sd	$72,912.71	$20,733.87	$14,189.10	$36,819.59	$36,825.07	$36,696.61	$27,458.74	$10,000.00
n	171	19	6	7	27	13	8	3
range	$11.4k-$825k	$50k-$134k	$58k-$97k	$30k-$135.6k	$56-$200k	$28.3-$150k	$25k-$100k	$35k-$65k

TABLE 3: YEARS OF EXPERIENCE

mean	0-2	3-5	6-10	11-15	16-19	20-30	30+
salary	$43,404.20	$64,486.72	$80,780.92	$110,325.00	$93,667.56	$136,680.77	$159,723.53
sd	$11,483.77	$13,537.60	$25,839.31	$97,637.39	$40,600.17	$43,133.21	$73,906.36
n	10	46	75	58	9	39	17
range	$25k-$59.6	$25k-$93k	$30k-$200k	$50k-$825k	$11.4k-$135.6k	$80k-$250k	$100k-$400k

TABLE 4: EDUCATION ACHIEVED

mean	College	B.Sc.	M.Sc.	PhD.
salary	$53,150.00	$95,442.18	$98,032.83	$111,804.40
sd	$15,768.48	$75,314.81	$38,549.56	$77,503.08
n	2	131	101	20
range	$42k-$64.3k	$11.4k-$825k	$50k-$250k	$30k-$400k

The data upon which the foregoing is based was gathered from an internet survey sent out to ASPB members in September, 2016. The analysis has been prepared by ASPB volunteer Todd Zimmerling, P. Biol. Dr Zimmerling is President and CEO of the Alberta Conservation Association at Sherwood Park, Alberta.

Parks & Protected Areas...*(continued from page 6)*

relative proportion of grassland habitat represented increased, underscoring the importance of grassland habitat for these species.

MANAGEMENT IMPLICATIONS

- Some vegetation types and species within the boreal region have < 10% representation in the existing PPA network.
- A systematic selection of areas to obtain 10% representation of all vegetation types requires additional protected areas in the Central Mixedwood, Dry Mixedwood, and Lower Boreal Highlands.
- Gap-filling based on vegetation types resulted in better representation for many of the species, but some birds and vascular plants were still under-represented.
- To achieve 10% representation for all species in the PPA network, further additional areas in the southern portion of the Boreal Region (particularly in grassy habitats) were needed on top of those used to fill gaps in vegetation types.
- We were unable to include rare species that are infrequently detected by the ABMI's monitoring when doing our gap analyses. Managers may wish to consider these species when filling PPA gaps.
- The ABMI's predictive species maps can help in evaluating how well existing PPA networks represent regional biodiversity, and be used to identify candidate areas to expand the network to achieve regional representation of species.

Canadian Ecologist goes to WTREX

by Tracey Etwell, M.Sc, P. Biol.

As I sit at my desk and look through my window at the wintery scene outside (currently -21C), I am reminiscing about my recent experience in the Sierra Nevada's of Northern California this past October. I had applied and been accepted to participate in WTREX (Women in prescribed burn Training Exchange). This was the first of its kind that was tailored to women in the prescribed burn field, although TREX opportunities have been running for a few years in various locations in the United States.

The theme was focussed on creating training opportunities for women in the non-traditional area of fire. Many women in the field still experience discrimination, harassment and lack of career promotion because of their gender. (See the U.S. Senate's recent review of sexual discrimination in the National Park Service, and articles in the Washington Post, referenced below). This course involved two weeks of in-the-field training, participating as part of an Incident Command System (ICS) while undertaking prescribed burns for a variety of land types, on private and public lands.

Women (and men) participated from many states and four countries (Spain, Portugal, United States and Canada). This was a unique opportunity to support the goals of a variety of participants in developing skills from the National Wildfire Cooperating Group (NWCG) and ICS, including public information officer, liaison officer, logistics, burn boss, engine boss, fire effects monitor, crew boss (FFT1) and wildland firefighter (FFT2). Not only were these hands-on experiences, they also allowed many participants to have tasks signed off for various taskbooks related to their roles. Women were also training women; men were invited to participate in a flipped composition (20% men), to represent the opposite composition normally held by women in fire. Men were not vilified but were seen to be a part of the solution to the problems in fire, and many male participants felt it was a great learning experience for them as well.

Participants also represented a number of organizations from state agencies, the park service, NGO's like Nature Conservancy. and wildfire agencies. One of the great strengths of the TREX opportunities is their ability is to accept individuals with a variety of backgrounds, including for example researchers, students, firefighters, and planners.

Long days were spent in the field undertaking site visits, team briefings, observing, and conducting ignition and mop up (full inspection and fire spot extinguishing). Evenings were spent listening to presentations from a variety of speakers on topics such as archaeology, fire research, national park service management, culture, and discrimination. As well, participants presented on issues of concern to them and fire issues in their specific locations.

Drip torch and other evidence notwithstanding, Alberta biologist Tracey Etwell is not playing pyromaniac games; she participated in an extensive WTREX training course on prescribed burning, held in California this past October!

"Burn Prescriptions" were carried out on days that met the conditions of wind, humidity, moisture and other parameters. Believe it or not, drought-prone sunny California did actually receive about four days of rain while we were there, and during some of those rainy days we conducted pile burning, which involved lighting on fire piles of woody debris that had been collected prior to our arrival. (Pile burning is often carried out in situations where the fuel load needs to be reduced but a full broadcast burn is not considered feasible.)

As a diehard ecologist – obsessed with the role of fire as a disturbance factor in natural systems – I was so thrilled to attend. Not only did I get to see a new landscape and practice skills like lighting with a drip torch, I also made some fabulous friends and connections.

Even if you have never witnessed a prescribed fire in your neck of the woods, I do think it will increasingly become a key tool to help combat climate change and predicted extreme weather events like forest fires. I believe prescribed burning has an important role to play in restoring our natural landscapes like the prairies.

Remarkably, this training was also supported by funding dollars which meant my local transportation, lodging and meals were all covered. While a small program fee was charged, I only had to arrange my own airfare. I appreciate my organization's support of my participation and making this a much more approachable professional development opportunity.

Tracey Etwell works as a Parks Ecologist for the City of Calgary Urban Conservation Department. She got her masters degree from York university studying fire ecology. In her free time she loves to explore natural habitats, animals and plants in a variety of places.